

# **EXHIBIT G**

**UNITED STATES DISTRICT COURT  
FOR THE WESTERN DISTRICT OF PENNSYLVANIA**

THOMAS POWER,

Plaintiff,

vs.

HEWLETT-PACKARD COMPANY,

Defendants.

CIVIL DIVISION

Docket No.: 2:17-CV-00154-MRH

Hon. Mark R. Hornak

**PLAINTIFF'S EXPERT DISCLOSURES PURSUANT TO FRCP 26(2)(B)**

Plaintiff, Thomas Power, by and through her counsel, Peter D. Friday, Esquire, Joshua S. Licata, Esquire and Friday & Cox, LLC, set forth the following Expert Disclosures pursuant to FRCP 26(2)(B) as indicated below:

**A. Kenneth J. Kutchek, P.E., CFEI**

1. Expert Report with Statement of Compensation and attachments
2. Curriculum Vitae
3. Testimony Lists

**B. William F. Kitzes, J.D.**

1. Expert Report with Statement of Compensation
2. Curriculum Vitae
3. Testimony List

**C. Michael S. Drew, M.D., F.A.C.S.**

1. Expert Report
2. Curriculum Vitae
3. Testimony Lists
4. Statement of Compensation  
*(To be Supplemented)*

Respectfully submitted,

FRIDAY & COX LLC

/s/ Peter D. Friday

Peter D. Friday, Esquire

Pa. I.D. # 48746

pfriday@fridaylaw.com

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Friday & Cox LLC

*(Counsel for Plaintiff)*

**CERTIFICATE OF SERVICE**

I, the undersigned, hereby certify that on the 30<sup>th</sup> day of October, 2020 a copy of the foregoing *Plaintiff's Expert Disclosures Pursuant to FRCP 26(2)(B)* was served upon the following via the Court's CM/ECF system and/or email:

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(*Counsel for Plaintiff*)

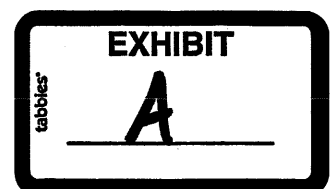
**ENGINEERS REPORT**  
  
**on the**  
  
**THOMAS POWER INCIDENT**

**By:**

**Kenneth J. Kutchek, P.E.**

**March 16, 2020**

**THE EXPERTS**  
**Robson Forensic**



## THOMAS POWER INCIDENT

### ENGINEERS REPORT

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#### A. INTRODUCTION

On June 20, 2015, Thomas Power was utilizing his Hewlett Packard notebook computer while sitting in the lobby area of 24 Hour Fitness located at 101 Corbett Court, Pittsburgh, PA. Thomas Power was injured when the notebook battery exploded.

The purpose of my investigation was to determine the cause of the battery explosion and fire.

I may use photographs taken during my inspection and/or any of the following materials listed below to illustrate my testimony. Robson Forensic, Inc. invoices my work associated with this investigation at the current rate of \$430.00 per hour. A copy of my curriculum vitae and my last four (4) years of testimony history are attached to this report.

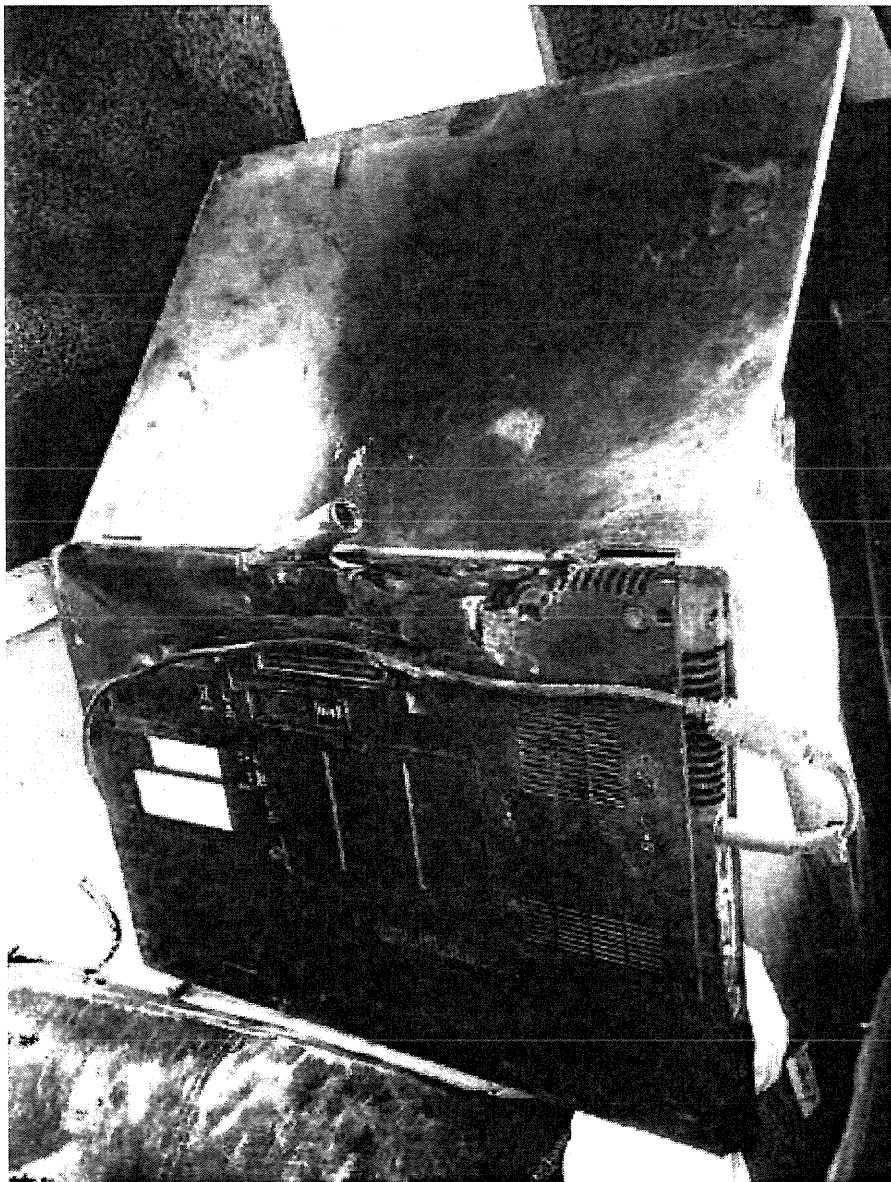
#### B. AVAILABLE INFORMATION

1. Complaint
2. HP Responses to Interrogatories
3. HP Responses to First Request For Production
4. HP Responses to Second Request For Production
5. HP Production 0001-5238
6. Deposition Transcript of Thomas Power dated July 30, 2018
7. Deposition Transcript of David Pipho HP designee dated November 26, 2018
8. Deposition Transcript of John Wozniak dated July 18, 2019
9. 24 Hour Fitness security system video
10. Computer photos by others dated August 24, 2016
11. Computer visual inspection on December 24, 2019
12. Review of computer Xray results
13. Review of notebook computer scan results

### C. BACKGROUND

Thomas Power [Power] purchased a Hewlett Packard [HP] EliteBook model 8730W notebook computer [computer] used on eBay. Power was utilizing his computer, on his lap while sitting in the lobby area of 24 Hour Fitness. The computer power adaptor was plugged into a 120VAC receptacle. Without notice the computer battery exploded and caught on fire.

Photo 1 – HP notebook computer post incident



**D. DEPOSITION TRANSCRIPT OF THOMAS POWER DATED JULY 30, 2018**

Power stated that he bought the HP notebook computer used on eBay in April 2013. Pg. 31. Power had the same type notebook computer prior to this subject notebook computer "the reason I bought it was because I already had one just like it, so I bought a duplicate" Pg. 34

Power stated that he received the power adaptor with the notebook but did not receive any HP paperwork. Pg 41. The notebook was shipped in a cushioned shipping box, "It was a regular notebook shipping container." Pg 41.

Power acknowledged that he used the notebook for more than two years before this incident occurred. Pg 40.

Power stated that he never had the notebook repaired prior to the incident. Pg 34 "No, it worked fine." Pd 45. He never replaced any parts and he never replaced the battery pack. Pg. 34 He never replaced the power adaptor. Pg 45

Power stated that he used the notebook for "somewhere between 20 and 60 minutes." "I was searching for a new apartment" at Club Julian on the day of incident. Pg.54 "they have guest WiFi there" Pg 55. Power stated that the notebook was plugged in to a 120vac outlet, "I always plugged it in" Pg 56. Power stated that the notebook was located on his lap. "I was wearing sandals, shorts and a polo shirt" The notebook was on his bare legs "most of it was on my skin." Pg 58.

Power stated that the notebook exploded, "suddenly and without warning it exploded into flame", "I jumped up and pushed it off of me and stepped back, it then exploded a second time." "Then the clerk came out with the fire extinguisher, while he was putting it out, it exploded a third time."" And at that point, I looked down at my legs and seen I was pretty badly burned." Pg 59 "It was coming from the under side of the notebook." Pg 61.

Power stated that he did not notice that the notebook was getting hot, he did not hear anything, see anything or smell anything unusual prior to the incident. Pg 59.

Power stated that there was no warning messages or anything on the computer itself before the first explosion, "nothing whatsoever". Pg 61

**E. DEPOSITION TRANSCRIPT OF DAVID PIPHO DATED NOVEMBER 26, 2018**

Pipho stated that he is employed by HP as an electrical hardware reliability engineer. "primarily supporting various customer escalations from an electrical, hardware, debug standpoint." Pg. 18

Pipho stated that the HP 8730 EliteBook uses lithium ion battery. Pg. 22 Pipho stated that the HP 8730 EliteBook battery pack, is designed and manufactured by STL Technology Pg 36. and the battery cells are manufactured by Sony. Pg. 28 STL Technology tests the battery pack. Pg 36.

Pipho stated that the battery pack in Power's notebook at the time of the incident was not an HP product. "based on the photographs, the markings for the labels are not HP. The serial number listed is not a valid HP serial number. And the paper label has no HP markings and is not consistent with the format of HP labels." Pg. 28

Pipho stated that the " battery pack controller is responsible for monitoring the current that is either going in or coming out of the battery pack and charged or discharged." "It is located on a small PCB board inside of the battery pack case." Pg. 47

Pipho stated that the power adapter is manufactured by HIPRO. Pg. 59 "there's three pins for power, ground and what is called adapter ID." "pin one is the adapter ID, pin two would be power, pin three would be ground." "the ID pin is used to identify the available wattage of the AC adapter as well as to regulate current and throttling in the notebook." "The ID pin could be considered a smart pin." Pg. 66 "the imbedded controller in the notebook would utilize the adapter signal primarily to identify the wattage of the AC adapter, ensuring that it is within the appropriate range. That's for that particular notebook design." Pg 74 "the same signal would be used as the notebook is operating. It would regulate throttling of the CPU to ensure that the notebook stays within the rating of the adapter." Pg 74

Pipho stated that "firmware that is programmed into the battery controller that is inside the battery pack." Pg. 80 "controls the necessary regulation of charge and/or safety aspects of the battery." Pg. 81

Pipho stated that "the notebook does regulate charging or not charging based on temperature reported by the battery." "there is a single battery temperature that is reported by the battery controller to the embedded controller in the notebook. If that goes above a threshold, then the charging will be discontinued." Pg. 89 The battery pack acceptable range of temperature is 0°C to 45°C for charging. "The embedded controller inside the notebook computer will tell the charger controller to not allow charging.", "it does not allow any charging above 45 degrees." Pg. 89 "the EliteBook 8730w shipped with a battery pack which contains design features to

monitor and control temperature, voltage and current to ensure the lithium ion battery cells charge and discharge within safe ranges." Pg. 92

Pipho stated that the battery pack contained warning "label that states replace with HP spares" Pg 94

Pipho acknowledged that there are non-HP approved battery packs which can fit into the notebook, "yes, I am aware." Pg 107 "we design the notebook to interact specifically with HP approved battery packs." Pg 107

Pipho stated that the notebook battery controller communicates with the battery pack, "the temperature is reported ", "for a particular charge current and charge voltage" Pg 112  
Pipho stated that the notebook battery controller controls the battery pack charging "the charging voltage and current has to be carefully controlled" "that controls the current and voltage to the battery pack" Pg 116

#### **F. DEPOSITION TRANSCRIPT OF JOHN WOZNIAK DATED JULY 18, 2019**

Wozniak stated that he was employed as a process engineer at Compact and HP.

"I qualified [battery] cells to be used in all HP Notebook products and I oversaw the battery pack development." Pg. 17

Wozniak stated that he was involved with the design of the HP EliteBook 8730W notebook charging system. Pg. 18

Wozniak stated that the notebook battery controller "that controls the charging function and that communicates with the battery pack." Pg.20

Wozniak stated that the battery pack has safety protections to prevent the battery pack from overcharging "the primary protection IC monitors the individual cells." "it monitors the overall use and if it exceeds a particular voltage limit then it shuts off the current Pg. 26 "the primary protection IC also protects against over charge, over discharging, short circuit .Pg. 29

Wozniak stated that internal short circuiting of the battery pack "would be a manufacturing defect", "there is no good way to protect against that" Pg. 30

Wozniak stated that thermal runaway "would be in a lithium ion cell", "when the temperature exceeds a certain limit inside the cell it generates its own combustible material, mainly oxygen, and then goes into a runaway condition " Pg. 31

Wozniak stated that the battery pack has protections against excessive temperatures inside the cells" Pg. 31 "each individual cell has a PTC which is a positive thermal coefficient device", "and it has a CID, which is a current interrupt device " "which are the two primary factors to help prevent thermal runaway" Pg. 32 "PTC is designed if the temperature of the cell exceeds a certain limit, which would be lower than a thermal runaway it opens up and prevents more energy from being put into that cell" "CID responds to pressure inside the cell and as heat can build up or other conditions within that cell can build up, it opens up that CID releases that pressure so that it doesn't go into thermal runaway" Pg. 34

Wozniak stated that the notebook user can not access information regarding the status of the temperature of each of the individual cells in the battery pack. The user could only access information regarding the charge level and amount of running time. Pg 40

Wozniak stated that the notebook charging system did not have safety protections to prevent or stop external short circuiting, "I don't believe there is anything" Pg. 45

Wozniak stated that the notebook charging system prevents over charging and "overcharging is the primary way to prevent a thermal runaway condition" Pg. 49

Wozniak stated that the notebook communicates with the battery pack "there is a two wire interface." Pg. 51 The "notebook asks for information and the battery gives it to it "Pg. 52

Wozniak stated that the notebook communicates to the user via a pop up message "if the battery has lost enough capacity over time that it would suggest to the user you should consider replacing the battery pack." Pg 52

Wozniak stated that the notebook does not notify the user if a non HP approved battery was installed into the notebook. Pg. 52

Wozniak stated that the notebook charging circuit is not easily replaced. "I'm sure there is no pin for pin replacement", "and these are tiny micron distances", "not something that you could do without magnification and a very steady hand" Pg. 62

## **G. COMPUTER INSPECTION**

I visually inspected and photographed the HP notebook computer at Friday & Cox office on December 19, 2019.

Photo 2 – HP notebook computer top

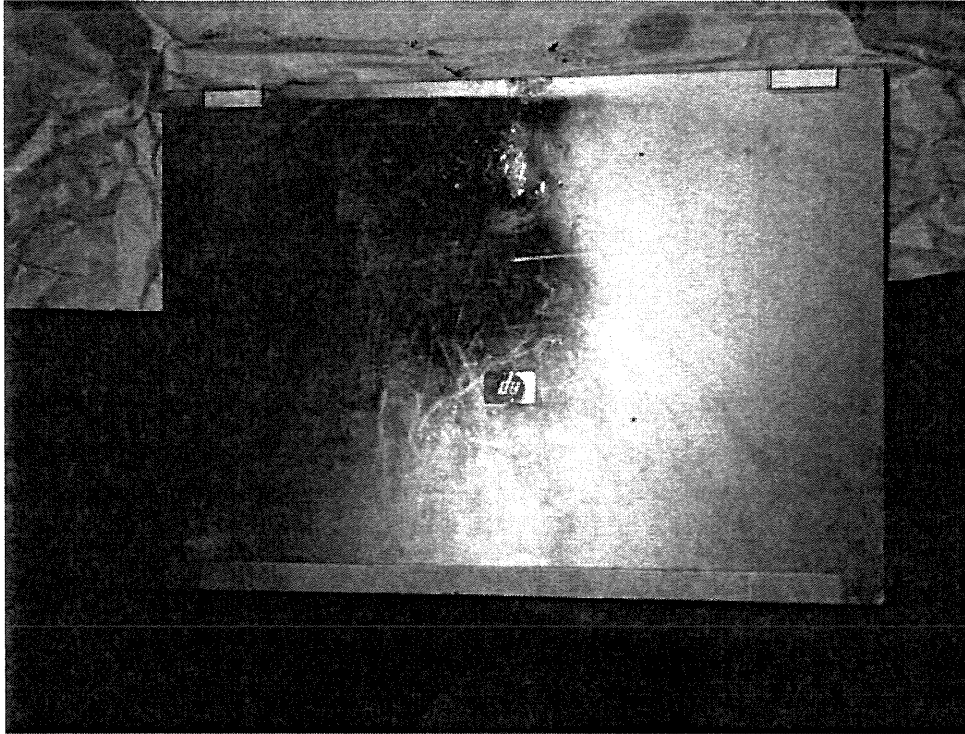


Photo 3 – HP notebook computer opened



Photo 4 – HP notebook computer opened

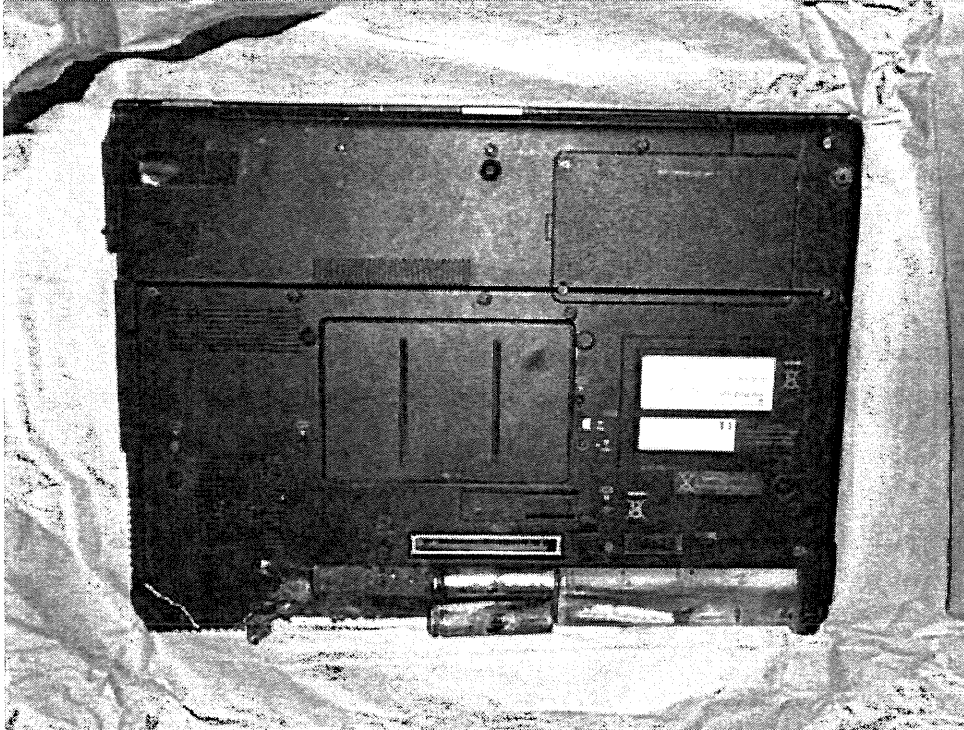


Photo 5 – HP notebook computer bottom and battery cells



Photo 6 – HP notebook computer bottom and battery cells



Photo 7 – closeup of battery cells

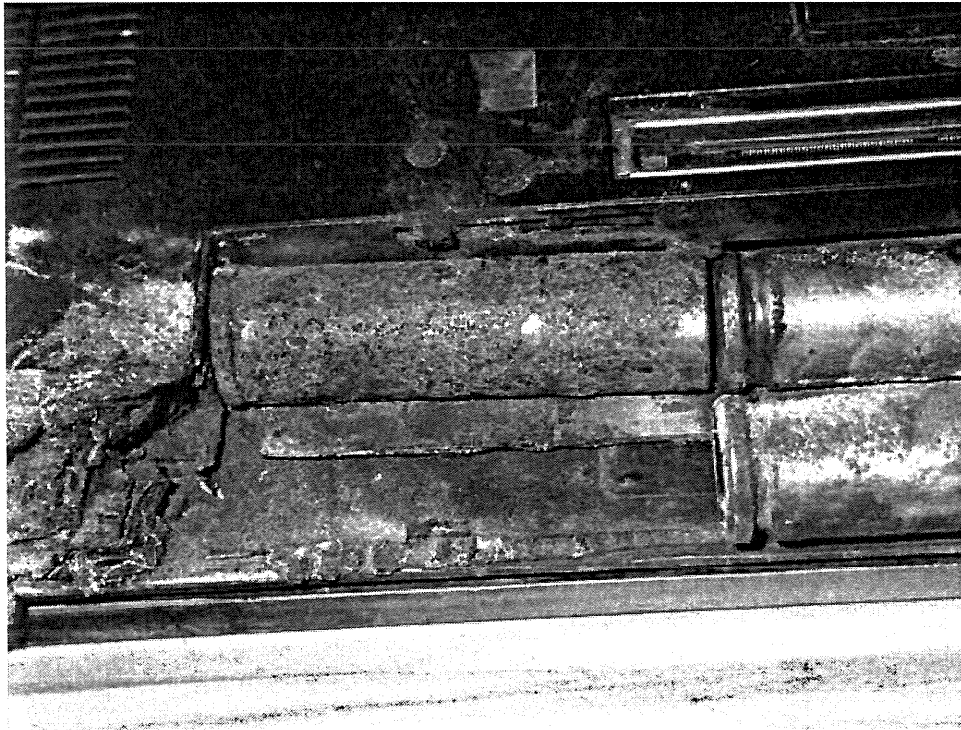


Photo 8 –battery cell



Photo 9 –top of battery cell



Photo 10 – notebook power adaptor



Photo 11 – notebook power adaptor closeup



The notebook computer was X-rayed by XYLON International on May 23, 2019. I was provided the X-ray results for review and analysis.

The notebook computer was CT scanned by Exponent on approximately September 30, 2019. I was provided the CT scan results for review and analysis.

## **H. ANALYSIS**

### **Notebook computer**

Power stated that he had been using the notebook for approximately 20-60 minutes, with the notebook on his lap, with the power adaptor plugged into a receptacle.

The HP notebook utilized a battery pack which contained eight 18650 lithium ion cells.

The bottom back area where the battery pack is located experienced heat damage. The evidence shows that two of the eight battery cells have experience thermal runaway and exploded and have expelled their contents.

### **Battery pack**

Battery pack installed in Power's HP notebook was not an HP approved battery pack.

Pipho stated that the battery pack in Power's notebook at the time of the incident was not an HP product. "based on the photographs, the markings for the labels are not HP. The serial number listed is not a valid HP serial number. And the paper label has no HP markings and is not consistent with the format of HP labels." Pg. 28

Pipho stated that the HP 8730 EliteBook uses lithium ion battery. Pg. 22 and the battery cells are manufactured by Sony. Pg. 28

Visual exam of Power's notebook battery cells indicated that the battery cells do not appear to be Sony 18650 cells.

Wozniak stated that the battery pack has safety protections to prevent the battery pack from overcharging "the primary protection IC monitors the individual cells." "it monitors the overall use and if it exceeds a particular voltage limit then it shuts off the current Pg. 26 "the primary protection IC also protects against over charge, over discharging, short circuit .Pg. 29

Wozniak stated that the battery pack has protections against excessive temperatures inside the cells" Pg. 31 "each individual cell has a PTC which is a positive thermal coefficient device", "and it has a CID, which is a current interrupt device " "which are the two primary factors to help prevent thermal runaway" Pg. 32 "PTC is designed if the temperature of the cell exceeds a certain limit, which would be lower than a thermal runaway it opens up and prevents more energy from being put into that cell" "CID responds to pressure inside the cell and as heat can build up or other conditions within that cell can build up, it opens up that CID releases that pressure so that it doesn't go into thermal runaway" Pg. 34

### **HP power adaptor**

Power received the power adapter with the PH notebook computer when he purchased the notebook.

Power's notebook power adapter appears to be manufactured by HP.

Pipho stated that the power adapter is manufactured by HIPRO. Pg. 59 "there's three pins for power, ground and what is called adapter ID." "pin one is the adapter ID, pin two would be power, pin three would be ground." "the ID pin is used to identify the available wattage of the AC adapter as well as to regulate current and throttling in the notebook." "The ID pin could be considered a smart pin." Pg. 66 "the imbedded controller in the notebook would utilize the adapter signal primarily to identify the wattage of the AC adapter, ensuring that it is within the appropriate range." Pg 74

### **HP notebook battery charge controller**

The HP notebook battery controller communicates with the battery pack. Wozniak stated that the notebook communicates with the battery pack "there is a two wire interface." Pg. 51 The "notebook asks for information and the battery gives it to it" Pg. 52 Wozniak stated that the notebook communicates to the user via a pop up message "if the battery has lost enough capacity over time that it would suggest to the user you should consider replacing the battery pack." Pg 52

Pipho stated that the notebook battery controller controls the battery pack charging "the charging voltage and current has to be carefully controlled" Pg 116 Wozniak stated that the notebook charging system prevents over charging and "overcharging is the primary way to prevent a thermal runaway condition" Pg. 49

Wozniak stated that the notebook charging system did not have safety protections to prevent or stop external short circuiting Pg. 45 nor internal short circuiting of the battery pack "there is no good way to protect against that" Pg. 30

There was little to no communication to the user about the battery pack.

Wozniak stated that the notebook user can not access information regarding the status of the battery pack temperature. The user could only access information regarding the charge level and amount of running time. Pg 40 Power stated that there was no warning messages or anything on the computer itself before the first explosion, "nothing whatsoever". Pg 61

### **Repairs or modifications**

Power stated that he never had the notebook repaired. Pg 34 "No, it worked fine." Pd 45. He never replaced any parts including the battery pack Pg. 34 and the power adaptor. Pg 45

Wozniak stated that the notebook battery controller circuit is not easily replaced. "I'm sure there is no pin for pin replacement", "and these are tiny micron distances", "not something that you could do without magnification and a very steady hand" Pg. 62

There was no evidence that indicated that the HP notebook battery controller circuit had been replaced.

### **HP Battery Pack Authentication**

HP was aware that non-HP approved battery packs were available for sale by third party retailers. Pipho acknowledged that there are non HP approved battery packs which can fit into the notebook, "yes, I am aware." Pg 107 "we design the notebook to interact specifically with HP approved battery packs." Pg 107

HP was aware of the potential hazard of using non-HP approved battery packs and provided a warning on the battery pack to replace with an authentic HP battery pack. Pipho stated that the battery pack contained warning "label that states replace with HP spares" Pg 94

HP was aware of authentication technology for replaceable components such as batteries. HP used the authentication technology in their ink jet printers. HP holds patent US20110109938A1 "Authenticating a Replaceable Printer Component", with an application

date of May 29, 2008 and with an issue date of May 12, 2011. HP's patent relates to ink cartridge authentication in ink jet printers.

Authentication technology was available at the time. Authentication is the process to verify the origin, identity and legitimacy of a replaceable item. Multiple authentication patents existed for electronic products.

Panasonic held a patent which relates to battery authentication in notebook computers. Panasonic patent US20100017610A1 - "Authentication System" with an application date of September 28, 2009 and with an issue date of March 6, 2012.

BlackBerry held a patent which relates to battery authentication in mobile phones. BlackBerry patent US20120046015A1 - "Battery Pack Authentication for a Mobile Communication Device", with an application date of October 28, 2001 and with an issue date of January 28, 2014.

Lexmark International held patents which relate to ink cartridge authentication in ink jet printers. Lexmark International holds patent US20050206672A1 - "Method of Authenticating a Consumable", with an application date of May 18, 2005 and with an issue date of September 22, 2005 and patent US7585043B2 - "Method of Authenticating a Consumable", with an application date of May 18, 2005 and with an issue date of September 8, 2009.

The HP notebook did not authenticate the installed battery by detecting, verifying and ensuring the use of only HP approved battery packs. HP failed to authenticate the installed battery and prevent the use of non-HP approved battery packs.


The HP notebook did not warn users that a non-authentic, non-HP approved, battery pack was installed. Wozniak stated that the notebook does not notify the user if a non HP approved battery pack was installed into the notebook. Pg. 52. HP failed to warn users if a non-HP approved battery pack was installed.

The HP notebook did not have interlocks to prevent the use of non-authentic, non-HP approved battery pack. HP failed to prevent the use of non-authentic, non-HP approved battery packs.

## I. FINDINGS

Within the bounds of reasonable engineering certainty, and based on my training, education and experience and subject to change if additional information becomes available, it is my professional opinion that:

1. HP was aware that non-HP approved battery packs were available for sale by third party retailers which could fit into their HP notebooks.
2. HP ensured that its approved battery packs contained various safety protections and underwent various levels of testing and quality control.
3. HP could not ensure any safety protections, testing and quality control for non approved battery packs. This created a risk for its notebook users.
4. HP was aware of the potential safety hazard of using non-HP approved battery packs in their HP notebooks and warned users against it. Power was exposed to this hazard.
5. This combination of hazard and risk created an unreasonably dangerous condition. Power's exposure to this dangerous condition was a cause of his injury.
6. HP failed to authenticate battery packs installed in its notebook computers.
7. HP failed to inform or warn the user of a non-HP approved battery pack installed in its notebook computers.
8. HP failed to have interlocks to prevent the use of non-HP approved battery pack in its notebook computers.
9. Had HP prevented the use of non-HP approved battery packs, this incident would have been prevented.

  
Kenneth Kutcek PE, CFEI

**THE EXPERTS**  
**Robson Forensic**

KENNETH J. KUTCHEK, P.E., CFEI  
Electrical Engineering, Industrial Machinery, Workplace Safety

**PROFESSIONAL EXPERIENCE**

2015 to present     **Robson Forensic, Inc.**  
*Associate*

Provide technical investigations, analysis, reports, and testimony toward the resolution of commercial and personal injury litigation involving design, construction, operation, maintenance and training of electrical systems, equipment and devices. Areas of expertise include:

**Industrial Controls and Automation:** electrical controls, hydraulics, pneumatics, manufacturing, assembly lines, warehousing, conveyors, robotics, automated storage and retrieval systems (ASRS), instrumentation, motion control, process control, heaters, ovens, presses, grinders, cutting, broaching, stamping presses, vision systems, motor controls, motion control, electrical control panels, PLC, HMI, MES, SCADA, data collection, alarming, digital devices, limit switches, proximity switches, photo-electric sensors, photo-eyes, ultrasonic sensors, level switches, flow switches, pressure switches, temperature switches, solenoid valves, relays, analog devices, transducers, level transmitters, flow transmitters, pressure transmitters, temperature transmitters, encoders, linear transducers, thermocouples, RTDs, AutoCAD, electrical drawings, piping and instrumentation diagram (P&ID), process flow diagrams (PFD), Bill of Materials (BOM), technical writing and training, operation/maintenance manuals, procedures and training.

**Industrial Machine Safety:** guarding, emergency stops, Lockout/Tagout, safety light curtains, safety mats, safety gates, safety area scanners, two hand controls, guard doors, safety relays, safety PLCs, safety interlocks, failsafe modes, warnings, instructions, training.

**Electrical Power Distribution:** transformers, power supplies, disconnects, fuses, circuit breakers, AC motors, DC motors, servo motors, motor controls, variable frequency drives (VFD), vector drives, motor starters, relays, contactors, uninterruptible power supplies (UPS), batteries, emergency generators, inverters, chargers, power factor, harmonics, connectors, splices, terminals, terminations, wiring, cables, receptacles, GFCI, AFCI, bus bars, power distribution blocks, grounding, lightning protection, metering, circuit breakers, conduit, distribution panels, utility distribution and utility services.

**Appliances/Equipment:** furnaces, boilers, pumps, water heaters, ranges, stoves, dishwashers, refrigerators, space heaters, toasters, coffee pots, clothes washers, clothes dryers, dehumidifiers, dish washers, refrigerators, freezers, air conditioners, dehumidifiers, refrigeration compressors, computers, uninterruptible power supplies, emergency power systems, batteries, power tools, vape devices, e-cigarettes, lithium-ion batteries, personal medical alert device systems, battery chargers, inverters and power strips.

**THE EXPERTS**  
**Robson Forensic**

KENNETH J. KUTCHEK, P.E., CFEI  
Electrical Engineering, Industrial Machinery, Workplace Safety

**Industrial/Facilities/Construction Equipment:** cranes, gantries, elevators, conveyors, turn tables, lifts, material handling, packaging, shipping docks, balers, compactors, palletizers, wrappers, scales, aerial lifts, boom lifts, scissor lifts, forklifts, pallet jacks, motors, speed control, HVAC systems, air conditioners, refrigeration, fans, pumps, blowers, compressors, and boilers.

**Workplace Safety:** Machine guarding, machine controls, lockout/tagout, electrical safety, Personal Protective Equipment (PPE), emergency stops, safety light curtains, safety mats, safety gates, two hand control, work procedures, work instructions, hazard analysis, risk assessments.

**Electric Shocks / Electrocutions:** electrical shock injuries, arc flashes, electrical faults, static shocks, Ground Faults Circuit Interrupters (GFCI), Arc Fault Circuit Interrupters(AFCI).

**Fires:** Electrical causes of fires, failure analysis, fire alarm systems, smoke detectors, heat detectors, carbon monoxide detectors, gas detectors, lithium-ion batteries.

**Project Management / Construction Management / Contracting:** commercial contracts, agreements, request for quote (RFQ), proposals, purchase orders (PO), change orders, change requisition, addendums, bulletins, submittals, bid specifications, scope of work, functional specifications, factory acceptance test (FAT), site acceptance test (SAT), commissioning, verification, schedules, budgets, staffing, efficiency, utilization.

National Electrical Code, National Electrical Safety Code, Electrical Safety in the Workplace, OSHA Standards for General Industry, OSHA Electrical Safety Standards.

2015 to  
present

**Dynamo Engineering**

*President/Electrical Engineer/Consultant*

- Electrical Engineering
- Industrial Controls and Automation Design and Development
- Industrial Machinery Safeguarding and Safety Risk Assessments
- Workplace Safety Assessments
- Project Management
- Industrial/Commercial Energy Conservation

**THE EXPERTS**  
**Robson Forensic**

KENNETH J. KUTCHEK, P.E., CFEI  
Electrical Engineering, Industrial Machinery, Workplace Safety

- 1997 to 2015     **Patti Engineering**     2002-2015  
*Vice President of Operations*
- Industrial automation, control systems, machine control, process control, manufacturing automation, process control, industrial controls, project management, software development (PLC, SCADA, HMI, MES, DCS), electrical controls design, equipment installations, upgrades, power distribution, robotics, motion control, conveyor systems, assembly lines, warehousing, vision systems, RF Radios, RFID, barcode, control panel design build, machine safety, AC/DC/servo drives, CNC, pneumatics, hydraulics, alarming, data collection, data reporting, vision inspection systems, material handling, warehousing, ASRS across various industries: automotive, food, beverage, water, waste water, chemicals, manufacturing, distribution, warehousing, aggregates, etc.
  - Managed all electrical controls automation projects (hardware design, software development, machine safeguarding, startups, service calls, warranty work)
  - Managed project schedules, budgets and change orders
  - Developed / maintained company procedures, methodologies and documentation
  - Managed Engineering, HR, Accounting, Safety departments
  - Recruiting, training, evaluations of engineers
  - Managed CSIA Certification, UL certification
  - Managed vendor partnerships
  - Managed subcontractors - developed RFQ and negotiated contracts
  - Forensic Engineering, Expert Witness
- Senior Electrical Controls Engineer*     1997-2002
- Lead Engineer and Project Manager on electrical controls automation projects
  - Managed project schedules, budgets, specifications, contracts and change orders
  - Electrical control panel design in AutoCAD
  - PLC / HMI / GUI / SCADA software programming
  - Machine safeguarding, Lockout, safety controls
  - Onsite start-up, commissioning and troubleshooting
  - Developed operation and maintenance manuals
  - Trained customers on system operation and maintenance
- 1994 to 1997     **Power Saving Systems**  
*President/Electrical Engineer (self employed)*
- Performed industrial/commercial energy audits, analyzed electric and gas consumption
  - Engineered energy and cost saving solutions, lighting upgrades, power factor correction, peak demand billing, equipment utilization
  - Managed project installations, start-up and testing

# **THE EXPERTS** **Robson Forensic**

KENNETH J. KUTCHEK, P.E., CFEI  
Electrical Engineering, Industrial Machinery, Workplace Safety

- 1988 to 1994 **DuPont**  
*Product Development Engineer, Wilmington, DE* 1993-1994
- Developed and commercialized a fully automated biochemical instrument which detects and identifies bacteria in food
  - Optimized equipment and process parameters thru testing and statistical analysis
  - Provided onsite technical support to customers
  - Liaison between R+D, manufacturing and sales
  - Developed documentation for instrument installation, operation and maintenance
  - Trained customers on instrument installation, operation and maintenance
- Corporate Engineering Recruiter, Wilmington, DE* 1992-1993
- Interviewed, evaluated and selected BS, MS and PhD engineering candidates in all disciplines (electrical, mechanical, chemical, biological, and environmental) for placement throughout the corporation.
  - Managed and coordinated recruiting visits to numerous universities
- Project Engineer, Manufacturing Supervisor, Poughkeepsie NY/Danbury CT* 1990-1992
- Installed, started-up, operated and maintained an automated robotic manufacturing cell in a class 1 clean room producing pellicles for the electronics industry
  - Installed, started-up, operated a vacuum forming operation for pellicle packaging
  - Optimized equipment and process to improve product quality and efficiency
  - Hired, trained, supervised all operators/technicians
  - Managed production, QA, maintenance, scheduling, and raw material inventory
  - Developed all documentation for operation, maintenance and troubleshooting
- Process Engineer – Tyvek Manufacturing, Richmond VA* 1988-1990
- Increased process efficiency by improving yield, thru-put, and reliability
  - Optimized process parameters to improve product quality and yield
  - Assisted in the operation and development of the Honeywell TDC3000 Distributed Control System (DCS)
  - Assisted R+D and Marketing to develop new products
- 1986 to 1987 **Wisconsin Electric, Milwaukee, WI**  
*Distribution Engineering Technician (Co-op Student)*
- Inspected, planned, designed residential electrical services (overhead and underground)
  - Inspected, verified, inventoried electrical distribution equipment (poles, transformers, etc)
  - Updated electrical distribution layout drawings
  - Inspected overhead distribution lines
  - Inspected electrical distribution poles

# **THE EXPERTS** **Robson Forensic**

KENNETH J. KUTCHEK, P.E., CFEI  
Electrical Engineering, Industrial Machinery, Workplace Safety

## **PROFESSIONAL CREDENTIALS**

Professional Engineer: NCEES, Arizona, California, Colorado, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kentucky, Louisiana, Maryland, Michigan, Minnesota, Missouri, New Mexico, New York, Ohio, Pennsylvania, South Carolina, Tennessee, Texas, Utah, Virginia, West Virginia, Wisconsin  
Certified Fire and Explosion Investigator (CFEI)  
American Boat Yacht Council (ABYC ) – Marine Electrical Certification (Dec 2015)

## **EDUCATION**

Bachelor of Science, Electrical Engineering  
Illinois Institute of Technology, Chicago, Illinois, 1988  
MBA courses: Accounting, Economics, Finance, Operations Management, Statistics, Marketing  
University of Delaware, 1992-1994  
Marist University, 1990-1992  
University of Richmond, 1988-1990

### *Training:*

OSHA 30 Hour General Industry  
OSHA approved Aerial Lift Operation and Safety Certification  
Fire and Arson Investigator Training  
UL508A – Standard for Industrial Control panels  
NFPA70 – National Electric Code  
NFPA70E - Electrical Safety in the Workplace

### *Continuing Education:*

Fire Protection Systems, 2018,  
Electric Power Distribution Systems, 2018,  
Battery & Other Electricity Storage Technologies, 2018,  
Interior Electrical Distribution Systems, 2018,  
Electric Power Requirements for Buildings, 2018,  
Guide to Electrical Distribution Systems, 2018,  
Indiana PE Law and Ethics, 2018,  
Florida PE Law, 2018,  
Control Methods of AC Induction Motors, 2018,  
Design Professionals Contract Review, 2018,  
Advanced Fire Investigation for Professional Engineers, 2018,  
Fire due to Intentional Deviation from Design, 2018,  
Forensic Analysis of a Fire and Overfilled Propane Cylinder, 2018,  
Forensic Analysis of Hot Socket Problems in Electrical Meters, 2018,  
Forensic Analysis of a Cloned Ignition Coil Pack, 2018,  
Forensic Investigation of Furnace Oil Supply Line Fitting Leak, 2018,

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Forensic Analysis of Residential and Commercial Chairs, 2018,  
Forensic Analysis - Misuse of Pressure Vessel Codes, 2018,  
Solar Insolation Parameters for FE Applications, 2018,  
Ethics: Conflicts of Interest, 2017,  
Ethics: Autonomous Vehicles: Who's in the Driver's Seat?, 2017,  
Ethics: Licensure and Professional Practice Concerns, 2017,  
Ethics: Lessons from Forensic Engineer, 2017,  
Ethics: Protecting the Public Health and Safety & Demonstrating Competence, 2017,  
Fire Investigation - Electrical Arc Mapping, 2017,  
Residential Natural Gas Systems, 2017,  
Residential Electrical Systems, 2017,  
OSHA General Industry - OSHA 29 CFR 1910 - 30 Hr, 2017,  
Investigation of Gas and Electric Appliance Fires, 2017,  
IEEE 3006.7 Reliability of Continuous Power Systems in Industrial and Commercial Facilities,  
2017,  
LED Street Lighting, 2017,  
Design Professional Legal Liability workshop, 2017,  
AC vs DC: Resurrection of Westinghouse and Edison debate, 2017,  
Residential Building Construction, 2016  
Reduce Scope Creep and Get Paid for Extra Services, 2016  
Selling the Professional Services Firm: Architects and Engineers, 2016  
Seven Secrets of Super Successful Project Managers, 2016  
Ethics: Conflicts of Interest, Confidentiality and the Public Health Safety Welfare, 2016  
Ethics: Employment and Professional Practice, 2016  
Ten Uber-Trends Changing Everything in Business and Our World, 2016  
Ethics Forum: Engineering Expert Witnesses and Litigation, 2016  
Texas Statutes, Rules, and Ethics for Professional Engineers, 2016  
Wisconsin Statutes, Rules, and Ethics for Professional Engineers, 2016  
Indiana Statutes, Rules, and Ethics for Professional Engineers, 2016  
New Battery Technologies, 2016  
Understanding Fire through the Candle Experiments, 2016  
Fire Investigator - Scene Safety, 2016  
Fire and Arson Investigator Academy, 2016  
Fire Investigator - Scientific Method, 2016  
Marine Electrical Training and Certification, 2015  
Electric Shock Drowning, 2015  
NFPA 70E - Electrical Safety in the Workplace, 2015  
NFPA 70 - National Electric Code, 2015  
Electric Power Substations, 2015  
Electric Power Generation, 2015  
Electric Power Transmission and Distribution, 2015  
The Pros & Cons of Using Consultants, 2015  
Ethics and Sustainable Development, 2015  
Team Building Skills for Engineers, 2015  
Leading as an Engineering Responsibility, 2015

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Seven Secrets to Successful Negotiation, 2015  
Ethics and Risk Management, 2015  
Engineering Ethics: Professional Issues, 2015  
How Effective Leaders Manage Conflict, 2015  
Fire Investigators 10 Most Common Errors, 2015  
Fire Investigators Report Writing, 2015  
Engineering Ethics: Technical Issues, 2015  
Engineering Ethics: Business Issues, 2015  
Expert Witness Daubert Challenge, 2015  
Chemistry of Fire, 2015  
Engineering Ethics Expert Witness and Engineering Review Issues, 2014  
Conduct Effective Meetings, 2013  
NSPE –Conflicts of Interest Proposed Federal Rules, 2013  
Federal Contracting Laws, 2013  
Legal Realities of Project Scheduling, 2013  
Strategic Planning, 2013  
Maintaining Objectivity Truthfulness, Preserving Confidentiality, 2013  
Impact of the Ongoing Economic Crisis on Engineering Ethics, 2013  
Project Management and Ethics, 2013  
Whistleblowing - PEs Obligations to Report Misconduct, 2013  
Project Management, 2012

## **PROFESSIONAL MEMBERSHIPS**

National Academy of Forensic Engineers (NAFE)  
National Society of Professional Engineers (NSPE)  
Michigan Society of Professional Engineers (MSPE)  
National Fire Protection Association (NFPA)  
Nation Association Fire Investigators (NAFI)  
American Association of Safety Engineers (ASSE)  
Institute of Electrical and Electronics Engineers (IEEE)  
American Boat Yacht Council (ABYC)  
Underwriters Laboratories Standards Technical Panel 60947 - Industrial Control Equipment,  
Low-Voltage Switchgear and Controlgear, Contactors and Motor Starters  
Underwriters Laboratories Standards Technical Panel 61496 - Safety Light Curtains  
Underwriters Laboratories Standards Technical Panel 60730D - Timer Controls  
Underwriters Laboratories Standards Technical Panel 60730E - Appliance Controls  
Underwriters Laboratories Standards Technical Panel 1998 - Software in Programmable  
Components  
Underwriters Laboratories Standards Technical Panel 1026 - Electric Cooking Appliances  
Underwriters Laboratories Standards Technical Panel 2157 - Electric Clothes Washers and  
Dryers

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## **PUBLICATIONS AND PRESENTATIONS**

Siemens Automation Summit – Users Technical Conference presentation, Time to Market -  
Engine Assembly Build during Production, June 2014  
Indusoft webinar presentation, System Integrator Best Practices Webinar, March 2013  
Control System Integrators Association – Annual Conference presentation, Top 5 Secrets to  
Passing the CSIA Registration Audit, April 2003

## **OTHER EXPERIENCE**

Boating (inland water): Recreational boating, PWC's (sit-down and stand-up), kayaks and  
canoes, including maintenance, modifications, repairs, rebuilding. Boating safety  
navigation rules/laws. Completed Safety Certification training.  
Snowmobiling: Recreational snowmobiling, including maintenance, repairs, rebuilding.  
Snowmobiling rules/laws. Completed Safety Certification training.  
Automobiles classic/historic: maintenance, modifications, repairs, rebuilding.  
Home Remodeling: Completely restored/remodeled a 95 year home - electrical, plumbing,  
mechanical, framing, stairs, cabinetry, roofing, siding, decking.  
Sports and activities: swimming, biking, running, triathlons, boating, canoeing, kayaking.

## **VOLUNTEER ACTIVITIES**

First Robotics: Mentor/Coach for High School robotics team. Robot Inspector, 2010-2015  
Christmas in Action: home renovation projects for the elderly, 2005-present  
Meals on Wheels: deliver meals to the elderly, 2002-present  
Boy Scouts of America: Assistant Scoutmaster, Eagle Scout Advisor, Treasurer, 2000-2014  
Habitat for Humanity: home building – framing, roofing, siding, drywall, trim, cabinetry,  
painting, electrical, plumbing, managed electrical, mechanical, plumbing, and  
foundation contractors, 1994-2004

**Kenneth J. Kutchek, PE**

## History of Expert Testimony by Deposition or Trial

<u>Date</u>	<u>Case Name &amp; Description</u>
07/09/20	Christine Kalski, Estate of Jeff Kalski v. Ashley Capital; Ashley Finance, Roush Enterprises, and Transformer Inspection Retrofil Corp. (TIRC) Case No. 18-010542-NO <i>Wayne County Circuit Court of Michigan; Deposition</i>
04/08/20	Shareef El-Jamaly v. DTE Energy, DTE Electric, Kirco Manix Construction, Kirco OM, Kirco Development, Ghafari Associates, National Safety Resource Center, Chris Streb, Orelikon Metco Case No. 18-011226-NO <i>Wayne County Circuit Court of Michigan; Deposition</i>
02/21/20	Greg McKinney v. Autoneum North America Case No. 3:19-cv-00215 <i>US District Court Northern District of Ohio; Deposition</i>
02/10/20	Michael Stewart v. Faith United Baptist Church Case No. 18-L-1 <i>St. Clair County Circuit Court, Illinois; Deposition</i>
08/15/19	Christopher Mitchell v. Michael Weinig Case No. 2-17-CV-00905-GCS-EPD <i>US District Court, Ohio Southern District; Deposition</i>
04/02/19	Samara Alsagheer v. Studio Academy of Beauty Case No. CV 2018-004091 <i>Maricopa County Superior Court, Arizona; Deposition</i>
05/25/18	Norman Noble Inc. v. Blackstone Ultrasonics Inc. Case No. 1:17-cv-01384 <i>US District Court, Ohio Northern District Eastern Division; Deposition</i>
05/21/18	Larry Mowinski v. Palfinger Liftgates, LLC Case No. 17-002651-NP <i>Macomb County Circuit Court, Michigan; Deposition</i>
11/18/16	Tabitha Ness, for Estate of Cory Elliott Ness (Deceased) v. Cranbrook Custom Homes, LLC Case No. 15-149906-NO <i>Oakland County Circuit Court, Michigan; Deposition</i>
03/22/16	AAA Insurance (subrogee of Faunce) v. Detroit Edison (DTE) Case No. 14-014629-NZ <i>Wayne County Circuit Court, Michigan; Deposition</i>

7/10/2020

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**First M. Last, ABC, XYZ**

History of Expert Testimony by Deposition or Trial

11/02/15      Exel North America v. Integrated Dispense Systems  
Case No. 14-CV-12646  
*US District Court, Michigan Eastern District Southern Division; Deposition*

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